

REMARKS

Claims 1 through 20 are pending in the subject application. Claim 1 has been amended to recite that each of said extensions comprise an inward angle of inflection between about 10 and about 27 degrees. Claim 2 has been cancelled as redundant in view of the amendment to claim 1. Claim 8 has been amended to recite that the two extensions are configured so as provide a noncontiguous fit with regard to said septum. Accordingly, in view of the foregoing amendments, claims 1 and 3 through 20 will be before the examiner for consideration.

Claims 1, 8, 10-11, and 17 are rejected under 35 U.S.C. §102(b) as being anticipated by U. S. Patent 5,335,659 to Pologe (Pologe patent). Applicants respectfully traverse. Claim 1 has been amended to recite that the extensions comprise an inward angle of inflection of about 10 to about 27 degrees. This not a design change for ‘ergonomic purposes’ but rather a specific and important new configuration that is especially tailored to achieve a purpose not before realized. The specific modification of inwardly inflecting the extensions allows for a substantial, unexpected improvement in the data retrieval of the nasal septum probe that is not possible by a straight armed probe taught by Pologe. The straight projecting arms of the Pologe patent do not achieve this objective. It was discovered that an unexpected improvement of the data stream is achieved by consistent and optimal placement of the LED and photodetector across the Keisselbach’s plexus. It was this discovery that led to the specific design feature of the inward angle of inflection.

In its obviousness rejection of now cancelled claim 2, the office action makes the allegation that it would have been obvious to modify the extensions since the Pologe patent mentions that the extensions of the Pologe probe may be altered to conform to a patient’s septum to minimize irritation. The angle of inflection feature recited in claim 1 cannot be equated with a configuration change that conforms to the patient’s nasal septum to minimize irritation. The angle of inflection of the probe arms as claimed in claim 1 are not intended to specifically address the issue of irritation, or septum damage,

a serious problem of the Pologe probes as will be discussed below, but rather an intentional modification brought about by the inventors' discovery that placing the LED and photodetector across from a patient's Keisselbach's plexus generates a data stream that is particularly robust. There is no teaching in the Pologe patent that modifying the straight arm extensions of the Pologe to comprise an inward inflection is desired, much less that it could result in the substantially improved data stream. A carefully crafted specific design alteration of the extensions to achieve an improved data signal is simply not taught nor suggested by the Pologe patent. Accordingly, the Pologe patent does not teach all of the limitations of claim 1 as required to be an anticipatory reference.

Turning to claims 8 and 11, each recite that the extensions are configured to provide a non-contiguous fit. The subject application provides extensive disclosure describing the non-contiguous fit configuration, see paragraphs 85-97 of the subject application. The non-contiguous fit aspect was based on the inventors' discovery that putting a conventional septum probe device onto a patient's septum for medically relevant periods of time could lead to serious tissue ulceration, or at best acute discomfort that made the use of such conventional probes not practical. The inventors realized that there was a misapprehension in the art that applying a septum probe with pressure to the septum was imperative to obtaining a usable signal. This direction by Pologe is not surprising since it is a logical progression from the earlier implementation of pulse oximeter probes to the fingers, which essentially squeeze the finger. Further, this misapprehension that the probe must squeeze the septum is clearly evident from the teachings of the Pologe patent. At column 2, lines 9-11, the Pologe patent teaches that the Pologe probe clips onto the patient's nasal septum, see also column 3, lines 14,-16 teaching that the Pologe probe opens during insertion of the probe into the nose and then clamps down onto septum prior to use (emphasis added). At column 3, lines 45-48, the Pologe patent teaches that the arms of the Pologe probe securely grasp a patient's nasal septum (emphasis added). The inventors have defied the conventional wisdom in the art by developing a probe embodiment comprising extensions that do not apply pressure to both sides of the septum, i.e., a probe that provides a non-contiguous fit to the septum.

The nasal pulse oximeter probe claimed in claims 8 and 11 are designed, sized and constructed to direct light against sensitive and highly vascularized mucosal tissue of the nasal septum without pressing against such tissue from both sides simultaneously, and to provide for long-term use with minimal irritation or tissue necrosis. This feature is taught away by Pologe, albeit unwittingly. Accordingly, Pologe does not teach or suggest all of the limitations of claims 8 and 11 as required to support an anticipation rejection.

In sum, the Pologe patent does not teach or suggest all of the elements of claims 1, 8 or 11. The Patent Office will note that claims dependent on claims 1, 8 or 11, are construed to include the limitations of the independent claim from which they ultimately depend. Thus, the Pologe patent does not anticipate the rejected claims 1, 8, 10-11, and 17. In view of the foregoing amendments and remarks, Applicants request the reconsideration and withdrawal of the 35 USC 102(b) rejection.

Next claims 2-5 and 12-15 are rejected under 35 U. S.C. §103(a) as being obvious over the Pologe patent. Applicants transverse and hereby incorporate the remarks made above in response to the 35 USC 102(b) rejection. Claims 2- 5 are construed to contain the limitations of claim 1. As discussed above, the Pologe patent fails to teach or suggest a probe having extensions that comprise an inward angle of inflection. Further, claims 12 through 15 are construed to include the limitations of claim 11. The Pologe patent does not teach a probe having extensions configured to provide a non-contiguous fit as recited in claim 11, and incorporated into claims 12-15. Accordingly, since the Pologe patent does not teach or suggest all of the claim limitations of claims 1 and 11, such limitations being included in claims 2 through 5 and 12 through 15 respectively, Applicants respectfully request the reconsideration and withdrawal of this 35 U.S.C. §103(b) and (a) rejection.

Claims 7, 9 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Pologe patent and further in view of U. S. Patent 5,335,656 to Bowe et al. (Bowe patent). Applicants traverse and hereby incorporate the remarks made in response to the 35 US.C. 102(b) rejection. Applicants have demonstrated above that the Pologe patent does not teach all the limitations of claims 1, 8 and 11. The Bowe patent does not cure

deficiencies of the Pologe patent. Thus, either alone, or in combination, the Pologe and Boew patents do not teach all of the claim limitations of claims 1, 8, and 11.

Accordingly, since claims 7, 9 and 18 are construed to include the limitations of claims 1, 8, and 11, respectively, the Pologe and/or Bowe patents do not teach or suggest all of the elements of claims 7, 9 and 18 as required to support an obviousness rejection.

Applicants respectfully request the reconsideration and withdrawal of the 35 U.S.C. §103(a) rejection.

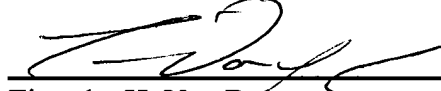
Claims 6 and 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Pologe patent as applied to claims 1 and 11, and further in view of U. S. Patent 5,005,571 to Dietz (Dietz patent). Applicants respectfully traverse. It has been noted above that the Pologe patent fails to teach all of the limitations of claims 1 and 11. The Dietz patent does not cure the deficiencies of the Pologe patent. Thus, since claims 6 and 16 are construed to include the limitations of claims 1 and 11, respectively, neither the Pologe nor the Dietz patent, either alone or in combination, teach all of the limitations of claims 6 and 16 as required to support a rejection of obviousness. Applicants respectfully request the reconsideration and withdrawal of this 35 U.S.C. §103(a) rejection.

Next claims 19 through 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Pologe patent, and further in view of U. S. Patent 6,679,265 to Strickland et al. (Strickland patent). Applicants respectfully traverse. Claims 19 through 20 are construed to contain the limitations of claim 11. Applicants reiterate that the Pologe patent does not teach or suggest all of the limitations of claim 11, and therefore does not teach all of the limitations of claims 19 through 20. The Strickland patent does not repair the deficiencies of the primary Pologe patent reference. The Pologe patent and the Strickland patent, either alone or in combination, do not teach all of the limitations of claims 19 through 20 as required to establish obviousness. Therefore, applicants respectfully request the reconsideration and withdrawal of this 35 U.S.C. §103(a) rejection.

Applicants believe that all claims are in a condition for allowance, and request that a Notice of Allowance be issued. Applicants invite the Examiner to call the

undersigned if clarification is needed on any aspect of this response. In addition, the Applicants request that the Examiner call the undersigned to arrange a telephonic interview if the Examiner believes that not all grounds for rejection have been addressed and overcome.

Respectfully submitted,



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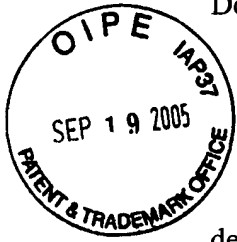
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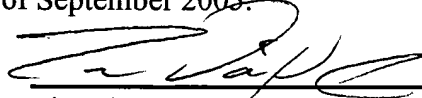
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CERTIFICATE OF MAILING

I HEREBY CERTIFY that this RESPONSE UNDER 37 CFR 1.111 is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P. O. Box 1450, Mail Stop Amendment, Alexandria, Virginia 22313-1450 15th day of September 2005.



Timothy H. Van Dyke